

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended): A method of producing a reconstructed chicken zygote or oocyte for generation of a transgenic chicken, comprising the steps of:

- (i) providing a recipient cell selected from the group consisting of ~~avian~~ chicken oocytes arrested at metaphase II and pronuclear zygotes;
- (ii) visualizing the nuclear material of the recipient cell using light in the near-infrared region;
- (iii) enucleating the recipient cell;
- (iv) introducing a donor nucleus from the same species as the recipient cell into the recipient cell to produce the reconstructed chicken zygote or oocyte;
- (v) activating the reconstructed zygote or oocyte; and
- ~~(vi) allowing the reconstructed zygote or oocyte to develop to term~~
- (vi) transferring the reconstructed zygote or oocyte into an oviduct of a recipient female of the same species as the zygote or oocyte; and
- (vii) allowing the reconstructed zygote or oocyte to develop to term in the recipient female such that a hard shell egg is laid by said recipient female; and
- (viii) incubating said egg in order to hatch the transgenic chicken.

Claim 2 (original): The method of claim 1, in which the nuclear material of the recipient cell is visualized with near-infrared light using two photon laser scanning microscopy.

Claim 3 (original): The method of claim 1, wherein the light has a wavelength from about 700 nm to about 1000 nm.

Claim 4 (original): The method of claim 1, wherein the recipient cell is enucleated through the use of laser-mediated ablation.

Claim 5 (previously presented): The method of claim 1, wherein the visualization and enucleation are conducted using two photon laser scanning microscopy.

Claim 6 (original): The method of claim 1, wherein the donor nucleus is genetically modified.

Claims 7-13 (canceled).

Claim 14 (currently amended): A method of producing a cloned chicken comprising the steps of:

- (i) providing a recipient cell selected from the group consisting of chicken oocytes arrested at metaphase II and pronuclear zygotes;
- (ii) visualizing the nuclear material of the recipient cell using light in the near-infrared region;
- (iii) enucleating the recipient cell using light in the near infrared region;
- (iv) introducing a donor nucleus from the same species as the recipient cell into the recipient cell to produce a reconstructed chicken zygote or oocyte;
- (v) activating the reconstructed zygote or fertilizing the reconstructed oocyte;
- (vi) transferring the reconstructed zygote or fertilized oocyte into an oviduct of a recipient female of the same species as the zygote or oocyte; and
- (vii) allowing the reconstructed zygote or oocyte to develop to term in the recipient female such that a hard shell egg is laid by said recipient female; and
- (viii) incubating said egg in order to hatch the cloned chicken.

Claim 15 (previously presented): The method of claim 14, wherein the light has a wavelength that ranges from about 700 nm to about 1000 nm.

Claim 16 (original): The method of claim 14, wherein the recipient cell nucleus is visualized using two photon laser scanning microscopy.

Claim 17 (original): The method of claim 14, wherein the recipient cell is enucleated using two photon laser scanning microscopy.

Claim 18 (previously presented): The method of claim 14, wherein the visualization and enucleation are conducted using two photon laser scanning microscopy.

Claim 19 (currently amended): A method of producing a transgenic chicken comprising the steps of:

- (i) providing a chicken recipient cell selected from the group consisting of chicken oocytes arrested at metaphase II and pronuclear zygotes;
- (ii) visualizing the nuclear material of the recipient cell using light in the near-infrared region;
- (iii) enucleating the recipient cell;
- (iv) introducing a transgenic chicken donor nucleus from the same species as the recipient cell into the recipient cell to produce a reconstructed chicken zygote or oocyte;
- (v) activating the reconstructed zygote or fertilizing the reconstructed oocyte;
- (vi) transferring the reconstructed zygote or fertilized oocyte into an oviduct of a recipient female of the same species as the zygote or oocyte; and
- (vii) allowing the reconstructed zygote or oocyte to develop to term in the recipient female such that a hard shell egg is laid by said recipient female; and
- (viii) incubating said egg in order to hatch the transgenic chicken.

Claim 20 (previously amended): The method of claim 19, wherein the transgene codes for a protein selected from the group consisting of human growth hormone, interferon,  $\beta$ -casein,  $\alpha$ -1 antitrypsin, antithrombin III, collagen, factor VIII, factor IX, factor X, fibrinogen, hyaluronic acid, insulin, lactoferrin, protein C, erythropoietin (EPO), granulocyte colony-stimulating factor (G-CSF), granulocyte macrophage colony-stimulating factor (GM-CSF), tissue-type plasminogen activator (tPA), feed additive enzymes, somatotropin, chymotrypsin, monoclonal antibodies, and polyclonal antibodies.

Claim 21 (previously amended): A method of producing a protein, comprising:

- (i) producing a transgenic chicken according to the method of claim 19 wherein the transgene encodes an exogenous protein, said protein being deposited into the developing eggs of said chicken;
- (ii) harvesting hard shell eggs of said chicken; and
- (iii) isolating the exogenous protein from said eggs.

Claim 22 (currently amended): The method of claim 21, wherein the exogenous protein is selected from the group consisting of human growth hormone, interferon,  $\beta$ -casein,  $\alpha$ -1 antitrypsin, antithrombin III, collagen, factor VIII, factor IX, factor X, fibrinogen, hyaluronic acid, insulin, lactoferrin, protein C, erythropoietin (EPO), granulocyte colony-stimulating factor (G-CSF), granulocyte macrophage colony-stimulating factor (GM-CSF), tissue-type plasminogen activator (tPA), feed additive enzymes, somatotropin and chymotrypsin.

Claim 23 (canceled).

Claim 24 (currently amended): A method of claim 14, wherein the cloned chicken is a knock-out or knock-in chicken.

Claims 25-31 (canceled).

Claim 32 (previously presented): A method of preparing a recipient cell comprising the steps of:

- (i) providing a cell having a nucleus therein;
- (ii) visualizing the nucleus using light in the near-infrared region; and
- (iii) ablating the nucleus to provide an enucleated recipient cell.

Claim 33 (previously presented): The method of claim 32 wherein the nucleus is visualized and ablated via two photon laser scanning microscopy.